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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,586	08/21/2001	Michel Deeba	4789	6841

7590 09/02/2003

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EXAMINER
STRICKLAND, JONAS N

ART UNIT	PAPER NUMBER
1754	9

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/933,586	DEEBA ET AL.	
	Examiner	Art Unit	
	Jonas N. Strickland	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *55-79* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *55-79* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4,7,8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 55-66 and 69-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feeley et al. (US Patent 5,792,436) in view of Hepburn et al. (US Patent 5,837,212).

Feeley et al. discloses a method for using a regenerable catalyzed trap. The method disclosed by Feeley et al. may be directed towards treating pollutants such as nitrogen oxides (col. 2, lines 43-51). Feeley et al. discloses a using a common refractory carrier member (col. 2, line 65), such as gamma alumina support (col. 6, line 50). Feeley et al. continues to disclose a catalytic treatment zone for the abatement of nitrogen oxides, which may comprise platinum on a metal oxide support (col. 8, lines 24-29). Feeley et al. also teaches using alkali and alkaline metal oxides (col. 3, lines 9-35). Feeley et al. continues to teach producing a platinum/manganese trap material, which is calcined and dried (col. 13, lines 18-28).

Hepburn et al. teaches a potassium/manganese nitrogen oxide trap for lean burn engine operation, wherein the catalyst consists of manganese and potassium loaded on a porous support (see abstract). Hepburn et al. teaches a gamma-alumina support, wherein manganese nitrate is impregnated into the washcoat and drying and calcining the impregnated washcoat (col. 3, lines 1-11). Hepburn et al. continues to disclose wherein when the potassium is impregnated into the washcoat first it losses its effectiveness as a trap material, because the sulfur compounds react with the potassium to form potassium sulfide or potassium sulfate. When the manganese component is loaded, the sulfur poisoning of the potassium is reduced significantly (col. 3, lines 12-29). Therefore, it would have been obvious to rejuvenate a nitrogen oxide

trap catalyst based on the teachings of Hepburn et al., because Hepburn et al. teaches wherein the activity of the catalyst is improved significantly by impregnating manganese nitrate. Such modification of the Feeley et al. reference would have been obvious, because both Feeley et al. and Hepburn et al. are directed towards reducing nitrogen oxides from gases.

Feeley et al. teaches wherein the carrier had 2.0 g/in^3 (see Example 2) and wherein a platinum loading may be in the range of 73.5 g/ft^3 (col. 14, line 12). With respect to claim 62, it would have been obvious to achieve a platinum amount of at least 20%, because Feeley teaches having 18.24 wt% of Pt (col. 14, line 1). The amount of strontium, barium, and manganese is present from about 0.05 to 3 g/in^3 (col. 9, lines 55-57). Feeley et al. also discloses having lanthanum (col. 3, line 18). With respect to claim 79, Hepburn et al. teaches having a cordierite and mullite support material (col. 2, lines 50-53).

5. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feeley et al. (US Patent 5,792,436) in view of Hepburn et al. (US Patent 5,837,212) as applied to claims 55-66 and 69-79 above, and further in view of Deeba et al. (US Patent 5,874,057).

Applicant claims with respect to claims 67 and 68, wherein the alkali metal oxide is present in an amount of about 0.05 to about 0.75 g/in^3. Hepburn et al. teaches a potassium/manganese nitrogen oxide trap for lean burn engine operation, wherein the catalyst consists of manganese and potassium loaded on a porous support (see

abstract). However, Hepburn et al. does not teach wherein the alkali metal oxide is present in an amount of about 0.05 to about 0.75 g/in^3.

Deeba et al. teaches a lean nitrogen oxide catalyst trap method wherein metals, such as lithium, sodium, potassium are present in a range from about 0.05 to 3 g/in^3 (col. 8, lines 31-34).

Therefore, it would have been obvious to one of ordinary art to modify the teachings of Feeley et al. in view of Hepburn et al., by maintaining the alkali metal oxide amount from about 0.05 to about 0.75 g/in^3, based on the teachings of Deeba et al., which teaches wherein metals, such as lithium, sodium, potassium are present in a range from about 0.05 to 3 g/in^3 (col. 8, lines 31-34). Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art, would have expected a process for reducing nitrogen oxides as taught by Deeba et al., to be similarly useful and applicable to a process for reducing nitrogen oxides as taught by Feeley et al. in view of Hepburn et al.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.

Jonas N. Strickland
August 22, 2003

STANLEY S. SILVERMAN
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